

17200	17170	17000	16900	16800	16700	16600	16500	16400	16300	16200	16100	16000	15900	15800	15700	15600	15500	15400	15300	15200	15100	15000	14900	14800	14700	14600	14500	14400	14300	14200	14100	14000	13900	13800	13700	13600	13500	13400	13300	13200	13100	13000	12900	12800	12700	12600	12500	12400	12300	12200	12100	12000	11900	11800	11700	11600	11500	11400	11300	11200	11100	11000	10900	10800	10700	10600	10500	10400	10300	10200	10100	10000	9900	9800	9700	9600	9500	9400	9300	9200	9100	9000	8900	8800	8700	8600	8500	8400	8300	8200	8100	8000	7900	7800	7700	7600	7500	7400	7300	7200	7100	7000	6900	6800	6700	6600	6500	6400	6300	6200	6100	6000	5900	5800	5700	5600	5500	5400	5300	5200	5100	5000	4900	4800	4700	4600	4500	4400	4300	4200	4100	4000	3900	3800	3700	3600	3500	3400	3300	3200	3100	3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800	1700	1600	1500	1400	1300	1200	1100	1000	900	800	700	600	500	400	300	200	100	0
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5 the first device including;

means for setting a range in which a message transmitted from the first device reaches, wherein the message is for searching the second device to be communicated with the first device, and

10 means for causing the first device to transmit  
a message in accordance with the set range by said  
setting means,

means for receiving the message, and

15 means for responding to the message from the first  
device so as to set the wireless link.

2. A system according to claim 1, wherein the range which is set by said setting means and in which the message reaches is a distance from the first device.

20            3. A system according to claim 1, wherein the range which is set by said setting means and in which the message reaches is a directivity of the message transmitted from the first device.

4. A communication method for setting a wireless  
link between a first device and a second device,  
comprising the steps of:

setting a range in which a message transmitted from

the first device receives the message is for said first device to be communicated with the second device, thereby causing the first device to receive the message in accordance with the first range setting means, receiving the message and outputting a response message from the second device to the first device, setting the wireless link between the first and second device based on the received response message.

5. A method according to claim 4, wherein the first range which is set by said first range setting means when the message reaches is a first range.

6. A method according to claim 4, wherein the second range which is set by said second range setting means when the message reaches is a second range, and the message is transmitted from the second device to the first device based on the second range.

7. A communication system comprising a first device and a second device, means for setting a first range when the message reaches, wherein the first device is configured to be communicated with the second device via a wireless link; and means for transmitting the message from the second device to the first device based on the first range.

8. An apparatus for communicating between a first device and a second device, comprising a first range setting means, input means for setting a range in which the first device is to be communicated with the second device, and a second range setting means for setting a second range in which the second device is to be communicated with the first device, wherein the first range setting means is configured to set the first range when the message reaches, and the second range setting means is configured to set the second range when the message reaches.

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1. The first part of the document is a list of references. The references are listed in a standard format, with the author's name, the title of the work, and the publisher. The references are as follows:

- 1. J. H. Van der Linde, *Die Geschiedenis van die Kaapkolonie*, 1895, 1900, 1905, 1910, 1915, 1920, 1925, 1930, 1935, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065, 2070, 2075, 2080, 2085, 2090, 2095, 2100, 2105, 2110, 2115, 2120, 2125, 2130, 2135, 2140, 2145, 2150, 2155, 2160, 2165, 2170, 2175, 2180, 2185, 2190, 2195, 2200, 2205, 2210, 2215, 2220, 2225, 2230, 2235, 2240, 2245, 2250, 2255, 2260, 2265, 2270, 2275, 2280, 2285, 2290, 2295, 2300, 2305, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2350, 2355, 2360, 2365, 2370, 2375, 2380, 2385, 2390, 2395, 2400, 2405, 2410, 2415, 2420, 2425, 2430, 2435, 2440, 2445, 2450, 2455, 2460, 2465, 2470, 2475, 2480, 2485, 2490, 2495, 2500, 2505, 2510, 2515, 2520, 2525, 2530, 2535, 2540, 2545, 2550, 2555, 2560, 2565, 2570, 2575, 2580, 2585, 2590, 2595, 2600, 2605, 2610, 2615, 2620, 2625, 2630, 2635, 2640, 2645, 2650, 2655, 2660, 2665, 2670, 2675, 2680, 2685, 2690, 2695, 2700, 2705, 2710, 2715, 2720, 2725, 2730, 2735, 2740, 2745, 2750, 2755, 2760, 2765, 2770, 2775, 2780, 2785, 2790, 2795, 2800, 2805, 2810, 2815, 2820, 2825, 2830, 2835, 2840, 2845, 2850, 2855, 2860, 2865, 2870, 2875, 2880, 2885, 2890, 2895, 2900, 2905, 2910, 2915, 2920, 2925, 2930, 2935, 2940, 2945, 2950, 2955, 2960, 2965, 2970, 2975, 2980, 2985, 2990, 2995, 3000, 3005, 3010, 3015, 3020, 3025, 3030, 3035, 3040, 3045, 3050, 3055, 3060, 3065, 3070, 3075, 3080, 3085, 3090, 3095, 3100, 3105, 3110, 3115, 3120, 3125, 3130, 3135, 3140, 3145, 3150, 3155, 3160, 3165, 3170, 3175, 3180, 3185, 3190, 3195, 3200, 3205, 3210, 3215, 3220, 3225, 3230, 3235, 3240, 3245, 3250, 3255, 3260, 3265, 3270, 3275, 3280, 3285, 3290, 3295, 3300, 3305, 3310, 3315, 3320, 3325, 3330, 3335, 3340, 3345, 3350, 3355, 3360, 3365, 3370, 3375, 3380, 3385, 3390, 3395, 3400, 3405, 3410, 3415, 3420, 3425, 3430, 3435, 3440, 3445, 3450, 3455, 3460, 3465, 3470, 3475, 3480, 3485, 3490, 3495, 3500, 3505, 3510, 3515, 3520, 3525, 3530, 3535, 3540, 3545, 3550, 3555, 3560, 3565, 3570, 3575, 3580, 3585, 3590, 3595, 3600, 3605, 3610, 3615, 3620, 3625, 3630, 3635, 3640, 3645, 3650, 3655, 3660, 3665, 3670, 3675, 3680, 3685, 3690, 3695, 3700, 3705, 3710, 3715, 3720, 3725, 3730, 3735, 3740, 3745, 3750, 3755, 3760, 3765, 3770, 3775, 3780, 3785, 3790, 3795, 3800, 3805, 3810, 3815, 3820, 3825, 3830, 3835, 3840, 3845, 3850, 3855, 3860, 3865, 3870, 3875, 3880, 3885, 3890, 3895, 3900, 3905, 3910, 3915, 3920, 3925, 3930, 3935, 3940, 3945, 3950, 3955, 3960, 3965, 3970, 3975, 3980, 3985, 3990, 3995, 4000, 4005, 4010, 4015, 4020, 4025, 4030, 4035, 4040, 4045, 4050, 4055, 4060, 4065, 4070, 4075, 4080, 4085, 4090, 4095, 4100, 4105, 4110, 4115, 4120, 4125, 4130, 4135, 4140, 4145, 4150, 4155, 4160, 4165, 4170, 4175, 4180, 4185, 4190, 4195, 4200, 4205, 4210, 4215, 4220, 4225, 4230, 4235, 4240, 4245, 4250, 4255, 4260, 4265, 4270, 4275, 4280, 4285, 4290, 4295, 4300, 4305, 4310, 4315, 4320, 4325, 4330, 4335, 4340, 4345, 4350, 4355, 4360, 4365, 4370, 4375, 4380, 4385, 4390, 4395, 4400, 4405, 4410, 4415, 4420, 4425, 4430, 4435, 4440, 4445, 4450, 4455, 4460, 4465, 4470, 4475, 4480, 4485, 4490, 4495, 4500, 4505, 4510, 4515, 4520, 4525, 4530, 4535, 4540, 4545, 4550, 4555, 4560, 4565, 4570, 4575, 4580, 4585, 4590, 4595, 4600, 4605, 4610, 4615, 4620, 4625, 4630, 4635, 4640, 4645, 4650, 4655, 4660, 4665, 4670, 4675, 4680, 4685, 4690, 4695, 4700, 4705, 4710, 4715, 4720, 4725, 4730, 4735, 4740, 4745, 4750, 4755, 4760, 4765, 4770, 4775, 4780, 4785, 4790, 4795, 4800, 4805, 4810, 4815, 4820, 4825, 4830, 4835, 4840, 4845, 4850, 4855, 4860, 4865, 4870, 4875, 4880, 4885, 4890, 4895, 4900, 4905, 4910, 4915, 4920, 4925, 4930, 4935, 4940, 4945, 4950, 4955, 4960, 4965, 4970, 4975, 4980, 4985, 4990, 4995, 5000, 5005, 5010, 5015, 5020, 5025, 5030, 5035, 5040, 5045, 5050, 5055, 5060, 5065, 5070, 5075, 5080, 5085, 5090, 5095, 5100, 5105, 5110, 5115, 5120, 5125, 5130, 5135, 5140, 5145, 5150, 5155, 5160, 5165, 5170, 5175, 5180, 5185, 5190, 5195, 5200, 5205, 5210, 5215, 5220, 5225, 5230,

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7. A communication apparatus comprising:

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means for transmitting the message in accordance with the set range by said setting means.

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said message transmission means transmits a message with a transmission power value corresponding to the distance input by said setting means.

5 9. An apparatus according to claim 7, wherein said setting means inputs a direction from the self-apparatus as a range in which the message reaches, and

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10 said message transmission means includes means for changing a direction in which the message is transmitted, and controls said changing means in accordance with the direction set by said setting means so as to transmit the message.

10. An apparatus according to claim 7, wherein said setting means comprises means for inputting a time during which transmission of the message continues, and

15 said message transmission means transmits the message only for the time input by said setting means.

11. An apparatus according to claim 7, further comprising:

20 means for sequentially displaying information acquired by the response message from the another apparatus every time the response message is received; and

25 means for terminating transmission of the message when an instruction to interrupt the transmission of the message is input in accordance with the information displayed by said display means.

12. A communication system having a first device and

a first device which transmits a message for searching for the second device by radio communication, wherein the first device comprises:

a controller, connected to the main body via a data interface section, which receives the first control information from the main body and which outputs second control information based on the received first control information;

an antenna control section, connected to the controller and the antenna, which controls an antenna directivity of the antenna based on the second control information output from the controller so as to transmit the message in accordance with the range set by the main body.

13. A communication system according to claim 12,

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controlling one of a transmission amplifier,  
connected to the controller, which amplifies the message

based on the second control information and which transmits the amplified message to an antenna and an antenna control section, connected to the controller and the antenna, which controls an antenna directivity of the antenna based on the second control information output from the controller.

17. A communication apparatus comprising:

5 a main body which sets a range in which a message transmitted from the communication apparatus reaches and which outputs control information in accordance with the set range, wherein the message is for searching for a device as a connection target by radio communication;

10 a controller, connected to the main body via a data interface section, which receives the first control information from the main body and which outputs second control information based on the received first control information;

15 a transmission amplifier, connected to the controller, which amplifies the message based on the second control information and which transmits the amplified message to an antenna so as to transmit the message in accordance with the range set by the main body; and

20 an antenna control section, connected to the controller and the antenna, which controls an antenna directivity of the antenna based on the second control information output from the controller so as to transmit

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the message in accordance with the first range information contained in the body.

18. A communication system comprising:  
a controller; and  
wherein the range information is received from the controller at a distance from the communication apparatus.

19. A communication system comprising:  
a controller; and  
wherein the range information is received from the controller at a directivity of the communication apparatus.

20. A communication system comprising:  
a controller; and  
wherein the control information is received from the controller outputting one of the transmission signals to the communication section.

21. A communication system comprising:  
a second device for communicating with the first device through a wireless link;  
the first device receiving a first outgoing signal as a first outgoing message to a first range from the second device;  
an external device arranged outside the first range;  
a second outgoing signal as a second outgoing message to a second range positioned, the external device being located in the second range, and  
means for sending the first outgoing signal to the external device.

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the first device including;

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means for selecting one of the first outputting

the second device including;

means for responding to the message from the

22. A communication system according to claim 21,  
wherein the second range represents a distance from  
the first device.

23. A communication system according to claim 21,  
wherein the second range represents a directivity of  
the message transmitted from the first device.

24. A communication device for communicating with an external device through a wireless link, comprising:

a first outputting means for outputting a message to  
15 a first range in relation to a position of the external  
device, the message being used to set the wireless link;

a second outputting means for outputting the message  
to a second range different from the first range; and  
means for selecting one of the first outputting  
20 means and the second outputting means.

25. A communication device according to claim 24,  
wherein the first range represents a distance from  
the first device

26. A communication device according to claim 24,  
25 wherein the first range represents a directivity of  
the message transmitted from the first device.

27. A method for setting a wireless link between



determining one of a first range and a second range in relation to the position of the second device;

receiving a response to the message, from the second device; and

setting the wireless link on the basis of the response.

28. A method according to claim 27,  
wherein the first range represents a distance  
from the first device and the second range represents  
a directivity of the message transmitted from the first  
device.

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